CR-AVE Flight Summary
11 February 2006
All times given in CST

General Information

Flight date – 11 February 2006
Flight description – Flight 13 CR-AVE Transit Flight to Ellington Field (16th flight)
Flight duration – 5.0 hours
Crew – Scott Reagan, John Bain
Instruments flown (25): 2DS, ACAM, ALIAS, Argus, CAFS, CAPS, CIMS, CO_2, CPI, CSI, FCAS, Frostpoint, ICOS, JLH, MACS, MMS, MTP, NMASS, Ozone, PALMS, PANTHER, PT, Scanning-HIS, WAS, Water Vapor

Flight Log

Engine Start	11:50 am	**Takeoff**	12:02 pm	**Approach**	4:05 pm
Data Rec On	11:53 am	**Begin Descent**	3:58 pm	**Landing**	4:55 pm

Gear extensions/retractions

Gear Up	12:02 pm	4:17 pm				
Gear Down	4:10 pm	4:45 pm				

Weather Observations

Climb-Out

- The sky was very clear on climb-out, with scattered cumulus clouds near the surface. A few patches of high clouds were visible. Took four photos at 12:12 pm (30 kft). The CAPS display was 70% full of low-value numbers.
- The CAPS display was 70% at 35 kft, 50% at 43 kft (12:18 pm), 20% at 45 kft (12:23 pm), and down to less than 2% at 50 kft (12:30 pm).

Cruise

- 12:34 pm – The sky was clear to the surface, which had scattered cumulus clouds. No high layers were visible. The CAPS display was showing less than 5% random hits at 52 kft.
- 12:53 pm – A very thin, high subvisible cirrus layer was observed in the distance. Took four photos at 56 kft. The CAPS display showed less than 5%, with random hits.
- 1:01 pm – The high layer faded into just a hazy horizon. CAPS was less than 5% at 56 kft.
- 1:10 pm – Took a photo of an island on the left side of the aircraft.
- 1:25 pm – Occasional bursts of CAPS activity were seen, with up to 15% of the screen at 56.5 kft.
- 1:52 pm – We began the descent from 57 kft at intersection GUAMA. The spoilers were deployed at 1:57 pm (51 kft).
- 2:02 pm – We reached 40 kft, spoilers stowed. We were above a very large blow-off cirrus layer. Took six photos of this layer at 2:05 pm.
- 2:03 pm – Performed MMS yaw maneuver.
- 2:04 pm – Performed MMS pitch maneuver.
- 2:05 pm – Initiated the climb back to altitude. The CAPS display was 15 to 20% full of random hits in the first part of the climb.
- 2:08 pm – A strong (90-kt) crosswind was noted at 44 kft. The CAPS display was 15% full. By 2:10 pm (46 kft), the crosswind was 76 kts, and CAPS was down to less than 5%.
- 2:15 pm – We passed off the leading edge of a front below. Took four photos. CAPS less than 5%.
- 3:00 pm – We experienced some turbulence as we approached the trailing edge of the front.
- 3:20 pm – We were leaving the back edge of the front, and the turbulence was more pronounced (light to moderate). At 60 kft, we still were experiencing turbulence, which later subsided north of the frontal system.
- 3:35 pm – As we approached the Texas coast (100 miles out), the sky was very clear to the surface, with only one patch of stratus clouds offshore (about 50 miles south of Galveston). Took six photos.

Descent

- 3:47 pm – We zoomed to 61.3 kft about 33 miles from Ellington Field.
- 3:49 pm – We began our spiral descent over the field.
- 3:52 pm – Executed the MMS box maneuver at 58 kft, using 15-sec level legs.
- 3:58 pm – We spiraled down, reaching 46 kft at 4:05 pm. The CAPS display showed less than 5% random hits.
- We extended the final approach due to strong (90-kt) headwinds over the Gulf at lower altitudes.
- 4:38 pm – CAPS showed 10% hits from about 8 kft down on the approach.

Instrument Notes

- On initial start-up, the CAFS Upper fail light stayed on. It was cycled and cleared at 12:23 pm, with no further fail indications.
- The CIMS fail light came on at 13 kft during the approach. No action was taken, as the barometric pressure was very high. The altimeter setting on approach was 30.32.
- The Harvard Water Vapor light came on earlier than expected (8 kft).